

REMARKS

Claims 1-15, 17-39, 42-47, 49-57, 60-66 are pending in the application. Claim 43 has been amended. New claim 67 has been added. No new matter has been added.

Applicants thank the Examiner for indicating that claims 1-15, 17-39, 42 and 65 are allowed.

Objections to Drawings

The drawings are objected to for failing to show features recited in certain of the claims. In particular, the drawings are objected to for failing to show "reflecting portions that are perpendicular to the display normal" (claim 1) and "reflecting portions that are perpendicular to a normal to the display unit" (claim 50). Applicants respectfully disagree that the drawings fail to show these features. First, it should be noted, a display normal should be understood as being the direction that is normal to the plane of the film contained in the display, for example normal 1602 shown in FIG. 16. It should be noted, however, that some portions of a film's surface may not be parallel to the plane of the film, as is the case with the surface of a structured translector.

The Examiner is invited to review FIGs. 14A and 14B and the description thereof. FIG 14A shows a structured translector that has scalloped surface. A cross-section through the scalloped surface is illustrated in FIG. 14B. The plane of the film (x-y plane) lies parallel to the double headed arrow shown below the film. The double headed arrow represents the x-axis or, alternatively, the y-axis, although one of ordinary skill would understand from FIG. 14A that the scale of the x-axis in FIG. 14B is not necessarily the same as the scale of the y-axis. Some portions of the surface 1412 lie parallel to the double headed arrow and are, therefore, parallel to the plane of the film. For example, those portions that lie midway between the cusps of the surface lie parallel to the double headed arrow. Where the film surface is parallel to both the x-axis and the y-axis, the film surface is parallel to the film plane, i.e. is perpendicular to the display normal. Accordingly, the figures do show disputed features and no change to the drawings is required.

The Examiner is respectfully requested to withdraw the objection to the drawings.

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Objections to Specification

The specification is objected to for failing to provide proper antecedent basis for the claimed subject matter. In particular, it was indicated in the office action that the specification did not disclose the feature "reflecting portions that are perpendicular to the display normal". Applicants respectfully point out that such features were included in claims in the application as filed, and are shown in the figures, as discussed above. The section of the CFR recited by the Examiner (37 C.F.R. 1.75(d)(1)) states that "the claim or claims must conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description." Applicants note that there is no requirement for the exact same phrase used in the claims to be present in the specification, merely that a term "must find clear support...so that the meaning of the term in the claim is ascertainable by reference to the description". Nevertheless, while Applicants do not admit that antecedent basis is lacking, the specification has been amended to include a discussion of the surface having portions that are parallel to both the x-axis and y-axis, and so are perpendicular to a display normal. Applicants request that this objection be withdrawn.

Rejections under 35 U.S.C. § 102(e)

Claims 43, 45-47, 49, 52, 58, 60 and 64 are rejected under 35 U.S.C. § 102(e) as being anticipated by Iijima (U.S. Patent No. 6,870,586). Figs. 3 and 5 are identified in the Office Action as showing the invention. In particular, the Examiner asserts that Iijima teaches all the elements of claim 43 except for the "functional feature" "wherein ambient light incident on the display unit produces glare light in a glare direction and the structured translector reflects image light over a range of directions substantially surrounding the glare direction". The Examiner held that the "functional feature" did not provide structural distinction over the prior art.

Amended independent claim 43 is directed to a device that has a color transmissive display unit having a viewing side and a back side and a structured translector disposed to the backside of the color display unit. The structured translector comprises a structured substrate having a structured surface and a dielectric partial reflector disposed on the structured surface. The structured translector is shaped so that ambient light incident on the display unit in a glare

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direction is reflected by the structured translector as image light over a range of directions substantially surrounding the glare direction.

In the case of Iijima's device, the reflective polarization layer, the only layer taught by Iijima to have any structure, is taught only to contain the "triangularly wavy form" shown in FIGs. 3-5. The structure may best be described as being ribbed structure, with each rib being formed by two flat surfaces, where the two surfaces (44A, 44B) are disposed at different angles relative to the display normal (the surfaces 44A and 44B are shown in FIG. 5 to be disposed respectively at angles α and β relative to the plane of the display). The prismatically ribbed reflective polarizer taught in Iijima only reflects image light to one side or the other side of the glare peak, since it is composed of surfaces that lie at only two angles relative to the display normal.

The invention of claim 43, on the other hand has a structured translector that is shaped to reflect image light over a range of directions substantially surrounding the glare direction. One example of a structured translector that is covered by claim 43 is schematically illustrated in FIG. 13A. The glare peak is shown as ray 1324 while two exemplary rays of the reflected image light are shown as rays 1326 and 1328. Since the structured reflector is scalloped in both the x- and y-directions, the image light is reflected in multiple directions that surround the glare peak.

Accordingly, Iijima fails to teach all the elements of claim 43, and so claim 43 is not anticipated by Iijima.

Dependent claims 45-47, 49, 52, 58, 60 and 64, which depend directly or indirectly from independent claim 1, are also not anticipated by Iijima.

Rejections under 35 U.S.C. § 103(a)

Claim 44 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Iijima. Since this claim depends from claim 43, which is allowable over Iijima, claim 44 is also allowable.

Claim 55 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Iijima in view of Jang et al. (U.S. Patent No. 6,831,719). It is stated in the office action that Jang is cited for the use of a diffuser disposed between a structured translector and the transmissive display unit, and that it would have been obvious to employ such a diffuser to provide uniform backlighting.

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Jang fails to remedy the deficiencies of claim 43 described above with respect to Iijima. Accordingly, the proposed combination of Iijima and Jang fails to teach all the elements of claim 55, and claim 55 is patentable over the cited art.

Claim 59 is rejected under 35 U.S.C. § 103(a) as being unpatentable over the proposed combination of Iijima and Yamamoto (U.S. Patent No. 4,488,775). Claim 59 was canceled in the previous amendment, so this rejection is moot.

Conclusion

In view of the reasons provided above, it is believed that all pending claims are in condition for allowance. Applicants respectfully request favorable reconsideration and early allowance of all pending claims.

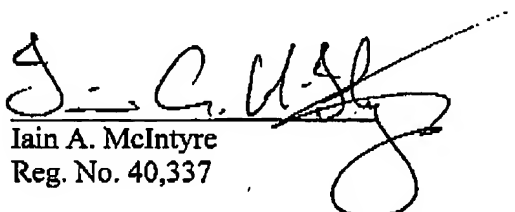
If a telephone conference would be helpful in resolving any issues concerning this communication, please contact the below signed attorney at 612 436 9610.

Respectfully submitted,

On behalf of 3M Innovative Properties Company
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